SOLAR AMERICA INITIATIVE

Technical Improvement Opportunities

A2 Breakout Session Report-Out

Solar America Initiative
Technical Exchange Meeting
April 17, 2006

Can you design target systems and formulate an R&D project plan within the TIO systems engineering framework? What obstacles do you see, based on the TIO structure and the example performance parameter "requirements" cited before?

- University role unclear in SAI
- Small biz will need to make more "buy" decisions to fit into SAI
- Long time to build vertically integrated teams
- Need flexibility to switch team makeup later
- Buying in to systems approach doesn't necessitate vertical teams

How well does the TIO structure fit your approach to the PV value chain? In R&D task planning? In manufacturing and integration operations?

- TIO needs to be phased, time sequenced
- Distribution channel effects need to be considered
- Interim results need to be accounted for
- Expected value, weighted approach to be valued (near term vs. long term payoff)

How well does LCOE as a metric fit your approach to the PV value chain? In R&D task planning, manufacturing and integration operations? Are there additional key metrics that are not covered by LCOE?

- LCOE does not totally address value
- LCOE timeframe too long for residential
- Initial capital cost is key for residential
- Additional value to be considered (BIPV, material displacement)
- Total cost picture, energy effects on building envelope
- LCOE is a factor in R&D choices, i.e. AR glass
- Non-LCOE metrics
  - -Efficiency
  - -Aesthetics
  - -O&M complexity
  - -Capacity factor, availability (uptime)
  - -Performance factor

What issues do you anticipate in DOE's use of SAM as a tool to aid project evaluation?

- Comparing fundamentally different configurations, i.e. CPV
- Enough details on inputs?
- Uncertain correlation with real world
- Standard market size estimates
- Regional variations

  -One target site=Phoenix, plus one or more from proposers

Brainstorm on types of "deliverables" to provide for assessment of progress – hardware for lab tests, field evaluations, reports, etc.22

- System purchase deliverables at a given price, potential reference systems
- Concern: Time required for assessment, DOE capabilities to assess
- Detailed list of cost assumptions at gates (equipment, volume, raw materials)- matrix/forms for standardized completeness
- Incremental verifiable reduction in LCOE as a deliverable

Other Comments and Concerns

- Need audits on today's prices in proposals to verify data
- How to evaluate these prices vs. actuals?
- How to value market impact?
- Total vertical integration is difficult given today's approach
- How do we account for risk?
- Environmental impacts
- Much concern over IP issues
- List university capabilities on web page